

IN THE CLAIMS

*Please cancel claims 40 and 51,  
amend claims 29, 45-50, 52, 53, 55, 64, 81 and 82; and  
add new claim 99 as follows:*

Claims 1-28 (Canceled).

29. (Currently Amended) An electric motor system, comprising:  
at least a first electric motor comprising a first rotor and a first stator;  
the first rotor being mechanically coupled to an engine;  
the first motor being connected to a first control or power component;  
at least a second electric motor comprising a second rotor and a second stator;  
the second rotor being mechanically coupled to a mechanical aggregate;  
the second motor being connected to a second control or power component;  
the first and second stators being non-movably coupled to a casing; ~~and~~  
each of the first and second control or power components being connected to each  
other and performing electronic power conversion;  
~~an electronic power system,~~  
wherein the first electric motor and the second electric motor are electrically coupled

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to one another ~~via the electronic power system in order to~~ and exchange electric power at a freely selectable voltage level.

30. (Previously Presented) The electric motor system of claim 29, wherein at least one of the first and second motors is of a three-phase type.

31. (Previously Presented) The electric motor system of claim 29, wherein the first rotor is mechanically coupled to the engine via at least one rotating shaft.

32. (Previously Presented) The electric motor system of claim 29, wherein the engine comprises an internal combustion engine.

33. (Previously Presented) The electric motor system of claim 32, wherein the first rotor is mechanically coupled to the internal combustion engine via at least one rotating shaft.

34. (Previously Presented) The electric motor system of claim 29, wherein the second rotor is mechanically coupled to the aggregate via a rotating part.

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35. (Previously Presented) The electric motor system of claim 34, wherein the aggregate comprises at least one of a turbo-engine and a turbocharger.

36. (Previously Presented) The electric motor system of claim 29, wherein the aggregate comprises at least one of a turbo-engine and a turbocharger.

37. (Previously Presented) The electric motor system of claim 29, further comprising a gearbox, wherein the first electric motor is mechanically connected to the engine via the gearbox.

38. (Previously Presented) The electric motor system of claim 29, wherein the first electric motor is at least one of integrated with the engine and integrated with a flywheel of the engine.

39. (Previously Presented) The electric motor system of claim 29, wherein the engine comprises a flywheel and wherein the first electric motor is structurally integrated with the flywheel.

40. (Canceled).

41. (Previously Presented) The electric motor system of claim 29, wherein each of the first and second motors are mounted in the casing.

42. (Previously Presented) The electric motor system of claim 29, wherein at least one of the first and second electric motors is one of an asynchronous type motor, a synchronous type motor, and a reluctance type motor.

43. (Previously Presented) The electric motor system of claim 29, wherein an axis of the first rotor is aligned with an axis of the second rotor, such that the first and second rotors of the first and second electric motors share a common axis of rotation.

44. (Previously Presented) The electric motor system of claim 29, wherein the first rotor comprises one of an inner rotor and an outer rotor.

45. (Currently Amended) The ~~electrical~~ electric motor system of claim 29, wherein the second rotor comprises one of an inner rotor and an outer rotor.

46. (Currently Amended) The ~~electrical~~ electric motor system of claim 29, wherein the first rotor comprises an inner rotor and the second rotor comprises an outer rotor, each

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rotating about a common axis.

47. (Currently Amended) The ~~electrical~~ electric motor system of claim 29, wherein the first rotor comprises an inner rotor and the second rotor comprises an outer rotor.

48. (Currently Amended) The ~~electrical~~ electric motor system of claim 29, further comprising a mutual stator plate system.

49. (Currently Amended) The ~~electrical~~ electric motor system of claim 48, wherein the first and second stators are coupled to the mutual stator plate system, the first stator forming part of the first motor and the second stator forming part of the second motor.

50. (Currently Amended) The ~~electrical~~ electric motor system of claim 48, wherein each of the first and second rotors are rotatable with respect to the mutual stator plate system.

51. (Canceled).

52. (Currently Amended) The electric motor system of claim ~~51~~ 29, wherein the casing contains at least one of the first and second motors.

53. (Currently Amended) The electric motor system of claim 51 ~~29~~, wherein the casing surrounds at least one of the first and second motors.

54. (Previously Presented) The electric motor system of claim 29, wherein the casing houses at least one of the first and second motors, wherein the casing includes one of a cooling system and a liquid cooling system.

55. (Currently Amended) The electric motor system of claim 29, ~~wherein the electronic power system~~ further comprising a third control or power component which supplies to ~~a mains connection~~ an electrical main at least one of a direct current, an alternating current, and a three-phase current.

56. (Previously Presented) The electric motor system claim 29, wherein at least one of the first and second stators includes at least two winding systems.

57. (Previously Presented) The electric motor system of claim 56, wherein the at least two winding systems are galvanically separated from one another.

58. (Previously Presented) The electric motor system of claim 56, wherein the at least two winding systems are coupled magnetically with a main flux of at least one of the first and second motors.

59. (Previously Presented) The electric motor system of claim 56, wherein the at least two winding systems are connected to separate electronic power circuits.

60. (Previously Presented) The electric motor system of claim 59, wherein the separate electronic power circuits are galvanically separated from one another.

61. (Currently Amended) The electric motor system of claim 56, wherein at least one of the at least two winding systems is connected via a rectifier bridge to an electrical main and wherein the electrical main comprises at least one of a direct current supply, a battery-fed mains, and a machine's mains, whereby power can be exchanged in one direction.

62. (Currently Amended) The electric motor system of claim 56, wherein at least one of the at least two winding systems is connected via a transistor bridge to an electrical main and wherein the electrical main comprises at least one of a direct current supply, a battery-fed mains, and a machine's mains, whereby power can be exchanged in both directions.

63. (Previously Presented) The electric motor system of claim 56, wherein at least one of the first and second motors functions as a generator and as a motor.

64. (Currently Amended) The electric motor system of claim 63, wherein the generator is configured to charge ~~a connected machine's mains~~ an electrical main.

65. (Previously Presented) The electric motor system of claim 56, wherein at least one of the first and second motors functions as a generator and as a starter.

66. (Previously Presented) The electric motor system of claim 65, wherein the first motor functions as the generator and as the starter, and wherein the starter is mechanically coupled to the engine.

67. (Previously Presented) The electric motor system of claim 56, each of the at least two winding systems are configured to allow a galvanically separable electric power exchange to occur between circuits connected to the winding systems.

68. (Previously Presented) The electric motor system of claim 56, wherein the at least two winding systems are controlled via electronically controlled switches.



69. (Previously Presented) The electric motor system of claim 68, wherein the electronically controlled switches are configured to take over control of electric parameters from the at least two winding systems.

70. (Previously Presented) The electric motor system of claim 69, wherein the at least two winding systems are coupled to non-controllable electronic power elements.

71. (Previously Presented) The electric motor system of claim 70, wherein the non-controllable electronic power elements comprise diodes.

72. (Previously Presented) The electric motor system of claim 56, wherein each of the at least two winding systems is galvanically independent of the other winding system and is connected with electromechanical function groups on generally different voltage levels.

73. (Previously Presented) The electric motor system of claim 56, wherein the at least two winding systems are closely magnetically coupled such that an electromagnetic power exchange occurs between the at least two winding systems independent of rotor rotation according to a transformer principle.

74. (Previously Presented) The electric motor system of claim 56, wherein the at least two winding systems are weakly magnetically coupled such that a slight electromagnetic influence results on the at least two winding systems.

75. (Previously Presented) The electric motor system of claim 56, wherein a freely selectable electromagnetic power exchange can occur between the at least two winding systems and a rotor shaft connected to one of the first and second rotors.

76. (Previously Presented) The electric motor system of claim 75, wherein the freely selectable electromagnetic power exchange is adapted to occur by controlling electromagnetic parameters.

77. (Previously Presented) The electric motor system of claim 76, wherein the electromagnetic parameters comprise at least one of currents and flux linking of at least one of the at least two winding systems.

78. (Previously Presented) The electric motor system of claim 29, wherein each of the first and second electric motors are mounted in the casing.

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79. (Previously Presented) The electric motor system of claim 29, wherein each of the first and second electric motors comprise one of an asynchronous motor, a synchronous motor and a reluctance motor.

80. (Previously Presented) The electric motor system of claim 29, wherein each of the first and second rotors rotate with respect to a common axis.

81. (Currently Amended) An electric motor system, comprising:  
at least a first electric motor comprising a first rotor and a first stator;  
the first rotor being mechanically coupled to an engine;  
at least a second electric motor comprising a second rotor and a second stator;  
the second rotor being mechanically coupled to a mechanical aggregate;  
the first stator being coupled to the second stator;  
the first and second stators being non-movably mounted to a casing; and  
an electronic power system,  
wherein the electronic power system comprises a first electronic power control circuit connected to each of an electrical main and the first stator, a second electronic power control circuit connected to each of the main and the second stator, and an electronic power module, and

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wherein the first electric motor and the second electric motor are electrically coupled to one another via the electronic power system in order to exchange electric power at a freely selectable voltage level.

82. (Currently Amended) An electric motor system, comprising:

a casing;

at least a first electric motor comprising a first rotor and a first stator system;

the first rotor being mechanically coupled to an engine;

an electronic power circuit connected to each of the first motor and an electrical main;

at least a second electric motor comprising a second rotor and a second stator system;

the second rotor being mechanically coupled to a mechanical aggregate;

a generator inverter and compressor motor inverter connecting the first and second motors to each other; and

each of the first stator system and the second stator system being coupled to the casing, wherein the first and second stator systems are prevented from rotating relative to the casing; and

~~an electronic power system;~~

wherein the first rotor and the second rotor rotate about a common axis, and

wherein the first electric motor and the second electric motor are electrically coupled

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to one another ~~via the electronic power system in order to~~ and exchange electric power at a freely selectable voltage level.

83. (Previously Presented) The electric motor system of claim 82, wherein the first and second stators comprise first and second windings, wherein at least one of the first and second windings comprises a groove or air-gap winding.

84. (Previously Presented) The electric motor system of claim 82, wherein the first stator at least partially surrounds the first rotor and wherein the second rotor at least partially surrounds the second stator.

85. (Previously Presented) The electric motor system of claim 82, further comprising at least one stator holding member, wherein the first and second stators are coupled to the at least one stator holding member.

86. (Previously Presented) The electric motor system of claim 82, further comprising first and second circumferentially arranged stator holding members, the first stator being mounted on an outer circumferential surface of the first stator holding member and the second stator being mounted on an inner circumferential surface of the second stator holding

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member.

87. (Previously Presented) The electric motor system of claim 29, wherein the first stator comprises a first stator winding and wherein the second stator comprises a second stator winding.

88. (Previously Presented) The electric motor system of claim 87, wherein at least one of the first and second stator windings comprises a groove or air-gap winding.

89. (Previously Presented) The electric motor system of claim 29, wherein the first stator at least partially surrounds the first rotor and wherein the second rotor at least partially surrounds the second stator.

90. (Previously Presented) The electric motor system of claim 29, wherein the first rotor at least partially surrounds the first stator and wherein the second stator at least partially surrounds the second rotor.

91. (Previously Presented) The electric motor system of claim 29, further comprising at least one stator holding member, wherein the first and second stators are coupled to the at

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least one stator holding member and wherein the at least one stator holding member is coupled to the casing.

92. (Previously Presented) The electric motor system of claim 29, further comprising at least one circumferentially arranged stator holding member, the first stator being mounted on an outer circumferential surface of the at least one circumferentially arranged stator holding member and the second stator being mounted on an inner circumferential surface of the at least one circumferentially arranged stator holding member.

93. (Previously Presented) The electric motor system of claim 29, wherein the first and second stators are arranged to face in opposite directions relative to at least one circumferentially arranged stator holding member.

94. (Previously Presented) The electric motor system of claim 81, wherein the first stator includes a winding that at least partially surrounds an outer surface of at least one circumferentially arranged stator holding member and wherein the second stator includes a winding that is at least partially surrounded by an inner surface of the at least one circumferentially arranged stator holding member.

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95. (Previously Presented) The electric motor system of claim 82, further comprising at least one circumferentially arranged stator holding member, the first stator including a first winding that is disposed adjacent an outer circumferential surface of the at least one stator holding member and the second stator including a second winding that is disposed adjacent an inner circumferential surface of the at least one stator holding member.

96. (Previously Presented) The electric motor system of claim 29, wherein the first rotor comprises a first axis and wherein the second rotor comprises a second axis, and wherein the first and second axes are spaced apart from one another.

97. (Previously Presented) The electric motor system of claim 81, wherein the first rotor comprises a first axis and wherein the second rotor comprises a second axis, and wherein the first and second axes are spaced apart from one another.

98. (Previously Presented) The electric motor system of claim 82, wherein the first rotor comprises a first axis and wherein the second rotor comprises a second axis, and wherein the first and second axes are spaced apart from one another.



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99. (New) The electric motor system of claim 29, further comprising a third control or power component connected to each of an electrical main and the first and second control or power components.